

SUMMARY OF THE ACTION

The Office Action is substantially reproduced below for the convenience of the Examiner:

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the drilling head equipment must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. The drawings are further objected to because Figure 4 includes two views and should therefore have two separate figure numbers. Further, sectional lines B-B should be changed to Roman or Arabic numerals as per 37 CFR 1.84(h)(3). The drawings are also objected to under 37 CFR 1.84(h)(3) because they fail to show the proper hatching for the resilient substrate as described in the specification to be an elastomeric material (the current hatching appears to be the cross section for metal). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. Corrected drawing sheets in compliance with 37 CFR 1.121 (d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be

renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 11 and 20 are objected to because of the following informalities: the first letter in claim 11 should be capitalized; in claim 20, the recitation of "the one or more rods" lacks proper antecedent basis since rods were never before mentioned in the claim. Appropriate correction is required.

Claim Rejections -35 USC§ 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 7-14, 16-18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 5,062,479 to Bailey et al.

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Regarding claims 1, 11-13, and 20 (as best understood to refer to support members rather than rods), Bailey et al disclose a stripper rubber 12 having a generally cylindrical upper portion and a dynamic generally frusto-conical lower portion and having an inner diameter, wherein the upper and lower portions define a bore 32 for receiving oilfield equipment, the stripper rubber comprising: a ring-shaped drive bushing 20 at least partially within the stripper and disposed toward the upper portion; and a structural retention assembly comprising: one or more support members, or cords, 34 dynamically suspended from the stripper upper portion; and one or more structural retention inserts, or ring, 38 at least partially within the stripper and distally attached to the support members 34 (see Figs. 2 and 4), wherein the stripper rubber dynamically forms a fluid tight seal around varying diameters of oilfield equipment that is raised or lowered through the bore (see col. 3, lines 8-18). In describing the function and operation of the stripper rubber, Bailey et al also inherently disclose a method of providing and using the stripper rubber described above to provide a dynamic, fluid-tight seal around varying diameters of oilfield equipment (see col. 2, lines 3-20 for further support).

Regarding claim 2, the retention inserts 38 cooperate with support members 36 to at least partially maintain the profile of the stripper against elastic deformation (see col. 3, lines 40-68).

Regarding claim 3, the adapter insert 20 is adapted to connect to drilling head equipment through elements 26 (see Fig. 1).

Regarding claim 5, a resilient substrate 18 (i.e., rubber) contains, at least partially, the adapter insert 20 and the structural retention assembly (see Fig. 2).

Regarding claims 7, 8, 10, and 16, the support members 34 are pivotally suspended from the adapter insert in a hinge-like fashion since the support members will be able to "swing", or pivot radially, on the ring-shaped insert 40 that abuts, and is therefore attached to, the drive bushing 20 due to the rubber molding process, wherein the support members 34 are optionally detachable from the insert and/or the structural retention insert 38 by simply unwinding the member 34 from the insert 40 (see Fig. 4).

Regarding claim 9, spacer members 42 act as hinge brackets in conjunction with ring 40 acting as a hinge pin for the hinging of the support members 34 (see Fig. 4).

Regarding claim 14, it is disclosed in Figure 7 that the drive bushing 20 can have grooves or indentations between ribs 24, which can inherently be considered partial perforations, to provide enhanced securement of the stripper rubber body 18 (see col. 3, lines 31-35).

Regarding claims 17 and 18, the assembly inherently comprises metal inserts, or composite material inserts, as are notoriously known in the art for such applications.

Claim Rejections -35 USC § 103

7. The following is a quotation of 35 V.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6, 15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al alone.

Regarding claims 6 and 15, Bailey et al teach the adapter insert and structural retention insert of claims 1 and 12 from above. However, it is not explicitly taught that the structural retention inserts comprise at least partial perforations to receive a resilient substrate to provide a strong mechanical bond between the substrate and the insert.

Yet, it is taught in Figure 7 that the drive bushing 20 can have grooves or indentations between ribs 24, which can inherently be considered partial perforations, to provide enhanced securement of the stripper rubber body 18 (see col. 3, lines 31-35). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art that the structural retention insert be similarly configured to provide added securement of the rubber to other parts of the assembly, thus providing motivation to make such a structural Regarding claim 19, the resilient substrate 18 is inherently rubber since it is called a stripper rubber body.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al in view of US patent 5,901,964 to Williams et al.

Bailey et al teach the stripper rubber of claim 3 from above that includes an adapter insert that is adapted to connect the stripper to drilling head equipment through element 26. However, it is not taught that the adapter has one or more cam pins extending longitudinally from the top of the adapter.

Williams et al teach a stripper rubber with an adapter insert 21 similar to that of Bailey et al (see Fig. 2). It is further taught that bolts 22 extend longitudinally from the top of the adapter for

securing to other components above the stripper. It would have been obvious to one of ordinary skill in the art, having the teachings of Bailey et al and Williams et al before him at the time the invention was made, to modify the adapter insert taught by Bailey et al to include the bolts longitudinally extending from the top of the adapter of Williams et al, in order to obtain a means for connecting to equipment above the stripper rubber. One would have been motivated to make such a combination since Bailey et al's current embodiment precludes the secure attachment of components to the top of the stripper rubber assembly, whereas the combination will allow such attachment to equipment that is notoriously known in the art to be attached from the top, such as top drives and other rotary drive and/or drilling components.

Remarks

Specification

Please substitute Amended paragraphs 0014 and 0024, respectively, for the original paragraphs 0014 and 0024. No new subject matter has been added. Both marked-up and clean versions of the Amended paragraphs 0014 and 0024 are submitted herewith.

Amended paragraph 0014 assigns reference numeral 107 to the “pipe or other drilling head equipment passing or extending through stripper rubber bore 103.” Reference numeral 107 is not new subject matter because it refers to pre-existing subject matter. The reference numeral has been added by amendment to facilitate ease of reference to an element (drilling head equipment) that was disclosed in the original paragraph 0014.

Amended paragraph 24 deletes the reference to section line B-B, which has been rendered immaterial by virtue of the corrected drawing of Fig. 4 submitted herewith. Additionally,

Amended paragraph 0024 recites the sentence: “Resilient substrate sealing element 160 conforms around well head equipment 107 disposed through bore 103.” This sentence is not new subject matter because the sealing element was disclosed originally in the same paragraph 0024; and the well head equipment and the bore were disclosed in the original paragraph 0014.

Drawings

A Replacement and an Annotated drawing sheet are submitted herewith to overcome the objections to the drawings specified in the Office Action. Specifically, Fig. 4 has been corrected to delete the left side drawing which depicted the section line B-B. Fig. 4 has also been corrected to show the proper cross-hatching for the materials of the various elements. Additionally, Fig. 4 has been corrected to show drilling head equipment such as a pipe 107 disposed through bore 103. No new subject matter has been entered. Support for the amended Fig. 4 maybe found in the applicant’s specification and paragraph 14 which recites in relevant part “Typical of many stripper rubbers, stripper rubber 100 has a generally cylindrical or ring-shaped upper moiety 101 for connecting stripper rubber 100 to substantially tubular drilling head equipment mounted above the stripper rubber, and generally frusto-conical lower moiety 102, which sealingly engages around pipe or other drilling equipment passing or extended through the stripper rubber bore 103.”

Claim Objections

Claim 11 has been amended to capitalize the first letter. Claim 20 has been amended to recite “support members” instead of “rods”. There is antecedent basis for “support members” in the subparagraph immediately preceding the amended subparagraph of claim 20.

Claim Amendments

Marked-up Amended claims 1, 11 and 20 are submitted herewith to overcome the basis for the claim rejections set forth in the Office Action. A clean set of amended claims is also submitted herewith.

A rejection based on 35 U.S.C. 102(b) can be overcome by: (A) Persuasively arguing that the claims are patentably distinguishable from the prior art; or (B) Amending the claims to patentably distinguish over the prior art. MPEP § 706.02(b).

Claims 1, 11 and 20 have been amended to recite that the support members (128) are disposed at least partially external to the stripper rubber lower moiety. Support for the amendment may be found in the applicant's specification at paragraph 0019, which recites in relevant part "Cantilever support member 128, such as a rod, bar, plane or other suitable structure, reciprocally pivotally suspended at proximate end 130 of support member 128 from hinge 122, descends axially from insert 101. In a specific embodiment, Support member 128 is at least partially external to the elastic sealing material (not shown) of the stripper rubber. In another embodiment, support member 128 is selectively attachable and detachable at its proximate end 130 to hinge 122."

Claim Rejections 35 USC § 102

Bailey recites, at column 4 lines 1-4, that "while the cords 34 and associated rings are fully embedded within the stripper rubber body 18, the support members 36 of the first embodiment are only partially embedded therein." Additionally, Bailey discloses at column 3 line 61 that ring 40 is "imbedded." To the extent that the Office Action equates cords 34, rings 40 and inserts 38 with

applicant's support member 128, the present claims as amended are distinguished from Bailey in that the applicant's support member 128 is not "fully embedded within the stripper rubber body."

To the extent that the Office Action equates Bailey's support member 36 with the applicant's support member 128, the applicant respectfully points out that Bailey's support member 36 is not dynamically suspended from the stripper rubber upper moiety, as is the applicant's, but rather the Bailey support member 36 is fixed into position. Accordingly, neither Bailey's cords and rings, nor Baileys support member 36, either in isolation or in combination, discloses each and every feature of the applicant's claims as amended.

Regarding claims 2, applicant respectfully submits that claim 2 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claim 3, applicant respectfully submits that claim 3 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claim 5, applicant respectfully submits that claim 5 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claims 7, 8, 10 and 16, the Office Action states that the support members 34 of Bailey are optionally detachable from the insert and/or structural retention insert 38 by simply unwinding the member 34 from the insert 40 (see Bailey Fig. 4.) The applicant, however, respectfully submits that such is not the case. Bailey's support members 34, ring 40 and insert 38 are described as being "imbedded within the stripper body" (see Bailey column 3, line 61 and column 4 lines 1-2). Additionally, Fig 4 is described by Bailey as "a partial perspective view of the reinforcing structure *molded into the stripper rubber* of the present invention." [Emphasis added].

Bailey does not disclose how one might access the cords 34 to unwind them from the inserts or rings 38 when they are imbedded within the stripper body. In contrast, the support members 128 of the present application are at least partially external to the stripper body and thus may be accessed for selective attachment to or detachment from the present assembly.

Further with regard to claims 7, 8, 10 and 16, the Office Action states that the support members 34 of Bailey are pivotally suspended from Bailey's rings and thus are able to "swing" or pivot radially from the rings. However, since the rings and the attached cords are imbedded in the rubber, the applicant respectfully suggests that swinging or pivoting does not accurately describe how Bailey's cords and rings actually operate because the rubber constrains the cords from pivoting or swinging from the rings or inserts. It is more accurate to state that Bailey's cords simply get mushed around in the rubber as the rubber deforms. It is telling that in his specification Bailey does not describe the cords as pivoting from the rings or inserts.

Regarding claims 7, 8, and 10 the applicant respectfully submits that claims 7, 8 and 10 are now in condition for allowance because they depend directly or indirectly from allowable amended claim 1.

Regarding claim 16, applicant respectfully submits that claim 16 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 11.

Regarding claim 9, applicant respectfully submits that claim 9 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claim 14, applicant respectfully submits that claim 14 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claims 17 and 18, applicant respectfully submits that claims 17 and 18 are now in condition for allowance because they depend directly or indirectly from allowable amended claim 1.

Claim Rejections 35 USC § 103

Regarding Claim 6, applicant respectfully submits that claim 6 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

Regarding claim 15, applicant respectfully submits that claim 15 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 11.

Regarding claim 19, applicant respectfully submits that claim 19 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 11.

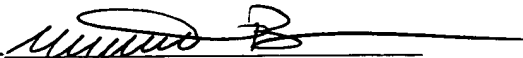
Regarding claim 4, applicant respectfully submits that claim 4 is now in condition for allowance because it depends directly or indirectly from allowable amended claim 1.

CONCLUSION

In view of the foregoing amendments and remarks, together with the corrected drawings, the applicant believes that the application is now in condition for allowance and respectfully requests entry of amendments to the claims and specification and the corrected drawing, reconsideration of the claim rejections, advancement of the application to allowance, and the issuance of letters patent.

If the Examiner has any questions regarding this paper, please contact the undersigned attorney.

Respectfully submitted

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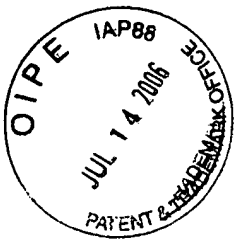
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CLAIM LISTING

Pursuant to CFR §1.121

I claim:

1. [Currently Amended] A stripper rubber having a generally cylindrical upper moiety and a dynamic generally frusto-conical lower moiety and having an inner diameter, wherein the upper and lower moieties cooperatively define a bore for receiving oil field equipment, the stripper rubber comprising:

a generally ring-shaped adapter insert at least partially within the stripper rubber and disposed toward the upper moiety of the stripper rubber; and

a structural retention assembly, the assembly further comprising:

one or more support members proximately and dynamically suspended from the stripper rubber upper moiety and at least partially external to the stripper rubber lower moiety; and

one or more structural retention inserts at least partially within the stripper rubber and distally attached to the one or more support members,

wherein the stripper rubber dynamically forms a fluid-tight seal around varying outer diameters of oil field equipment as the equipment is lowered or raised through the bore.

2. [Original] The stripper rubber of claim 1, wherein the one or more structural retention inserts at least partially maintain the profile of the stripper rubber against elastic deformation.
3. [Original] The stripper rubber of claim 1, wherein the adapter insert is adapted to connect the stripper rubber to drilling head equipment.
4. [Original] The stripper rubber of claim 3, wherein the adapter insert comprises a top and one or more cam pins extend longitudinally from the top.
5. [Original] The stripper rubber of claim 1, further comprising a resilient substrate within which the adapter insert and the structural retention assembly are at least partially embedded.
6. [Original] The stripper rubber of claim 5, wherein the one or more structural retention inserts further comprise one or more at least partial perforations through which the resilient substrate pervades to provide a strong mechanical bond between the substrate and the inserts.

7. [Original] The stripper rubber of claim 1, wherein the one or more support members are optionally detachable from the adapter insert.
8. [Original] The stripper rubber of claim 1, wherein at least one of the one or more support members is pivotally suspended from the adapter insert with a hinge.
9. [Original] The stripper rubber of claim 8, further comprising a hinge bracket and a hinge pin to mount the one or more support members on the upper moiety.
10. [Original] The stripper rubber of claim 1, wherein the one or more support members are selectively attachable and detachable from the one or more structural retention inserts.
11. [Currently Amended] [[a]] A structural retention assembly for a stripper rubber, wherein the stripper rubber has a generally cylindrical upper moiety and a dynamic generally frusto-conical lower moiety, and wherein the upper and lower moieties cooperatively define a bore for receiving oil field equipment, the assembly comprising:

one or more support members dynamically suspended from
the upper moiety and at least partially external to the
stripper rubber lower moiety; and

one or more structural retention inserts attached to at least one
of the one or more support members distally from the
upper moiety.

12. [Original] The assembly of claim 11, wherein the upper moiety further comprises an adapter insert.
13. [Original] The assembly of claim 12, wherein at least one of the one or more support members is dynamically suspended from the adapter insert.
14. [Original] The assembly of claim 12, wherein the adapter insert comprises one or more at least partial perforations to receive a resilient substrate to provide a strong mechanical bond between the substrate and the insert.
15. [Original] The assembly of claim 12, wherein at least one of the structural retention inserts comprises one or more at least partial perforations to receive a resilient substrate to provide a strong mechanical bond between the substrate and the insert.
16. [Original] The assembly of claim 11, wherein the support member reciprocally pivots radially from the upper moiety to provide dynamic dilation and contraction of the lower moiety.

17. [Original] The assembly of claim 11, wherein the assembly further comprises metal inserts.
18. [Original] The assembly of claim 11, wherein the assembly further comprises composite material inserts.
19. [Original] The assembly of claim 14, wherein the resilient substrate comprises rubber.
20. [Currently Amended] A method for providing a dynamic, fluid-tight seal around varying outer diameters of oil field equipment as the equipment is lowered or raised through a stripper rubber, such that the stripper rubber substantially resists longitudinal elastic deformation while the stripper rubber radially dilates or contracts around the equipment, the method comprising the steps of:

providing a stripper rubber having upper and lower moieties that cooperatively define a bore for receiving oil field equipment;

providing a generally ring-shaped adapter insert at least partially within the stripper rubber and disposed toward the upper moiety; and

providing a structural retention assembly at least partially within the stripper rubber and disposed toward the lower moiety, the assembly further comprising:

one or more support members proximately and dynamically suspended from the stripper rubber upper moiety and at least partially external to the stripper rubber lower moiety; and

one or more structural retention inserts distally attached to the one or more support members [[rods]],

such that the structural retention inserts and the support members cooperatively support the stripper rubber profile as the stripper rubber dynamically forms a fluid-tight seal around varying outer diameters of oil field equipment as the equipment is lowered or raised through the stripper rubber bore.